FIBERS SITE GROUP

February 10, 2017

Via Email Electronic Copy

Adalberto Bosque, PhD, MBA, REM, CEA
Response and Remediation Branch
U.S Environmental Protection Agency
City View Plaza II - Suite 7000
48 RD, 165 Km. 1.2
Guaynabo, PR 00968-8069

Subject: RD/RA Monthly Report – January 2017
Fibers Public Supply Wells Site
Guayama, Puerto Rico

Dear Mr. Bosque:

On behalf of the Fibers Public Supply Wells Site Settling Defendants, we are submitting the attached RD/RA Monthly Report prepared pursuant to the Consent Decree (Civil Action No. 92-2486) in the matter of *Unites States v. Anaquest Caribe, Inc. et al*, Section IX, Paragraph 30, Reporting Requirements.

Please feel free to contact Mr. James Kirschner of ARCADIS at (602) 797-4519 or me at (724) 544-4874 if you have any questions or comments regarding this submittal.

Sincerely,

Joe Biss, CHMM
Fibers Site Group Project Coordinator
EHS Support LLC

Copies:

Chief, New York/Caribbean Superfund Branch, Attn. Mel Hauptman- via email only
Ms. Evelyn Rivera-Ocasio, Assistant Regional Counsel – Caribbean Programs – via email only
Chief, Environmental Enforcement Division, U.S. Department of Justice (DOJ #90-11-2-768)
Amarilis Rodriguez Mendez, State Remedial Project Manager, Puerto Rico Environmental Quality Board - via email only
Ms. Katherine Mishkin, Hydrogeologist, USEPA Superfund Technical Support Section – via email only
Ms. Enid Diaz, Departmento de Recursos Naturales y Ambientales
Mr. Jorge Morales, PRIDCO - via email only
Mr. Joel Melendez Rodriguez, PRIDCO - via email only
Ms. Ana Palou Balsa, PRIDCO – via email only
Mr. Dan Vineyard, Jackson Walker- via email only
James Kirschner, Arcadis - via email only

RD/RA Monthly Report – January 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

(a) Description of actions which have been taken toward achieving compliance with this Decree.

Fibers Air Stripping System

The Fibers groundwater extraction and treatment system (GWETS) was operational for approximately 80% of the time during January 2017. The GWETS had one automated shut down due to a power outage and was then started at the Site the same business day. In addition, it had two shut downs due to GWETS maintenance.

A summary of the daily treatment system operating records is presented in Table 1. The GWETS average flow rates are depicted on Figure 1. The GWETS operated at an average flow rate of 278 gallons per minute (gpm) and treated approximately 14.03 million gallons of water in January 2017. To date (since May 1999), approximately 3.07 billion gallons of water have been treated at the Fibers Site.

(b) Summary of all sampling results and tests, and all other data received or generated by Settling Defendants.

Groundwater influent and effluent samples were collected on January 4, 2017 and analyzed by Pace Analytical Services, Inc. (Pace). A summary of the January 4, 2017 GWETS Laboratory Analytical Results is provided in Table 2. A summary of influent groundwater concentrations of tetrachloroethene (PCE) and total haloethers from the GWETS is depicted on Figures 2 and 3, respectively.

Arcadis U.S., Inc. (Arcadis) performed a data quality assessment (validation) of the laboratory analytical results reported by Pace. Results are summarized in the Data Review Report #27135R and provided as Attachment 1. A copy of the chain of custody and annotated sample analysis data sheets are provided as an attachment to the Data Review Report. A copy of the complete Laboratory Analytical Report #2048236 is provided as Attachment 2. A copy of the GWETS Sampling and Monitoring Field Form, documenting sample collection information, individual flow rates at the three groundwater extraction wells and treatment system parameters is provided as Attachment 3.

(c) List of all work plans, plans and other deliverables completed and submitted.

None for this reporting period.

(d) Description of all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks.

The second semi-annual groundwater monitoring and sampling event of 2016 was completed in December 2016. Complete data packages were received from the laboratory and have been validated. The second semi-annual groundwater monitoring and sampling report of 2016 is anticipated to be submitted to the United States Environmental Protection Agency (USEPA) in the next six weeks.

Environmental Resource Technologies (ERTEC) is planning a soil vapor extraction pilot study at the Baxter-Guayama facility on the Fibers Site. The pilot test is anticipated to commence in March 2017.

Arcadis will conduct the second phase of a subsurface soil investigation on the Wyeth LLC leased portion of the Site starting in February 2017. Upon completion of the data validation, a summary of results will be submitted to the USEPA.

(e) Information regarding the percentage completion, unresolved delays encountered or anticipated.

Construction Activities – 100% complete.
System Start-Up – 100% complete.
Start-Up Performance Monitoring – 100% complete.
Long-Term Operation & Maintenance Period – In progress.

(f) List of any modification to work plans or other schedules the Settling Defendants have proposed.

None.

(g) Description of activities undertaken in support of the Community Relations Plan.

No support activities have been requested for the next planning period.

(h) Actions undertaken to address outside parties concerns.

No concerns from outside parties were encountered during this reporting period.

Tables

Table 1
Summary of Daily Treatment System Operating Records - January 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Recording Date	Influent Flow (gpm) [1]	Effluent Flow (gpm) [2]	RW-2 (gpm) [3]	RW-4 (gpm) [4]	RW-5 (gpm) [5]	pH [6]	Comments
1/1/2017	278	312	115	165	80	8.3	
1/2/2017	276	311	115	165	80	8.3	
1/3/2017	316	355	115	165	80	8.2	
1/4/2017	356	403	115	165	80	8.2	
1/5/2017	104	117	35	50	24	8.2	GWETS shut down.
1/6/2017	0	0	0	0	0	0	
1/7/2017	30	34	12	16	8	8.2	
1/8/2017	0	0	0	0	0	0	
1/9/2017	89	101	30	43	21	8.1	GWETS maintenance; started GWETS.
1/10/2017	358	403	115	165	80	8.2	
1/11/2017	356	402	115	165	80	8.2	
1/12/2017	356	402	115	165	80	8.2	
1/13/2017	325	356	105	151	73	7.5	GWETS shut down due to power outage; started GWETS.
1/14/2017	356	401	115	165	80	8.2	
1/15/2017	355	403	115	165	80	8.2	
1/16/2017	348	401	113	161	79	8.2	
1/17/2017	356	403	115	165	80	8.2	
1/18/2017	356	403	115	165	80	8.2	
1/19/2017	356	403	115	165	80	8.2	
1/20/2017	356	402	115	165	80	8.2	
1/21/2017	311	351	101	145	70	8.2	GWETS shut down.
1/22/2017	0	0	0	0	0	0	
1/23/2017	134	151	45	63	31	8.1	GWETS maintenance; started GWETS.
1/24/2017	356	404	115	165	80	8.2	
1/25/2017	356	404	115	165	80	8.2	
1/26/2017	356	403	115	165	80	8.2	
1/27/2017	355	389	115	165	80	8.2	
1/28/2017	356	404	115	165	80	8.2	
1/29/2017	356	404	115	165	80	8.2	
1/30/2017	356	405	115	165	80	8.2	
1/31/2017	355	404	115	165	80	8.2	
Monthly Average	278	314	92	132	64	8.2	

Notes:

Flow rates are 24-hour daily average.

gpm = gallons per minute.

[1] = Recorded from instrument FIT-101.

[2] = Recorded from instrument FIT-301.

[3] = Recorded from instrument RW2 FIT.

[4] = Recorded from instrument RW4 FIT.

[5] = Recorded from instrument RW5 FIT.

[6] = Recorded from instrument pHIT-201A.

Table 2
Summary of Treatment System Laboratory Analytical Results
January 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Fibers Groundwater Extraction and Treatment System

Laboratory analytical results for water samples collected at the influent and effluent sample tap locations from the Fibers Groundwater Extraction and Treatment System on January 4, 2017 are presented below. The system average effluent flow rate at the time the samples were collected was 402 gallons per minute (gpm). Sample results indicate that the treatment system is operating in compliance with operating parameters pursuant to the Consent Decree.

	VOC (µg/L)			
	Sample ID			
Compound	EFF-20170104	EFFDUP-20170104	INF-20170104	TB-20170104
Tetrachloroethene	ND	ND	7.0	ND
Trichloroethene	ND	ND	ND	ND
Cis-1,2-dichloroethene	ND	ND	ND	ND
Enflurane	ND	ND	2.2	ND
Haloether 229	ND	ND	26.0	ND
Haloether 406	ND	ND	ND	ND
Haloether 508	ND	ND	53.6	ND
Haloether 528	ND	ND	ND	ND
Halomar	ND	ND	1.2	ND
Isoflurane	ND	ND	86.4	ND
Total Haloethers	ND	ND	169	ND
Acetone	22.6	31.0	10.1	12.8 J+
Other VOC	ND	ND	ND	ND

Notes:
VOC = volatile organic compounds.
µg/L = micrograms per liter.
EFF = effluent sample.
EFFDUP = effluent duplicate sample.
INF = influent sample.
TB = trip blank.
ND = not detected at or above laboratory reporting limit.
J+ = The compound was positively identified; however, the associated numerical value is an estimated concentration only (potential high bias).

Figures

Figure 1
Fibers Public Supply Wells Superfund Site
Summary of Treatment System Flow Rates

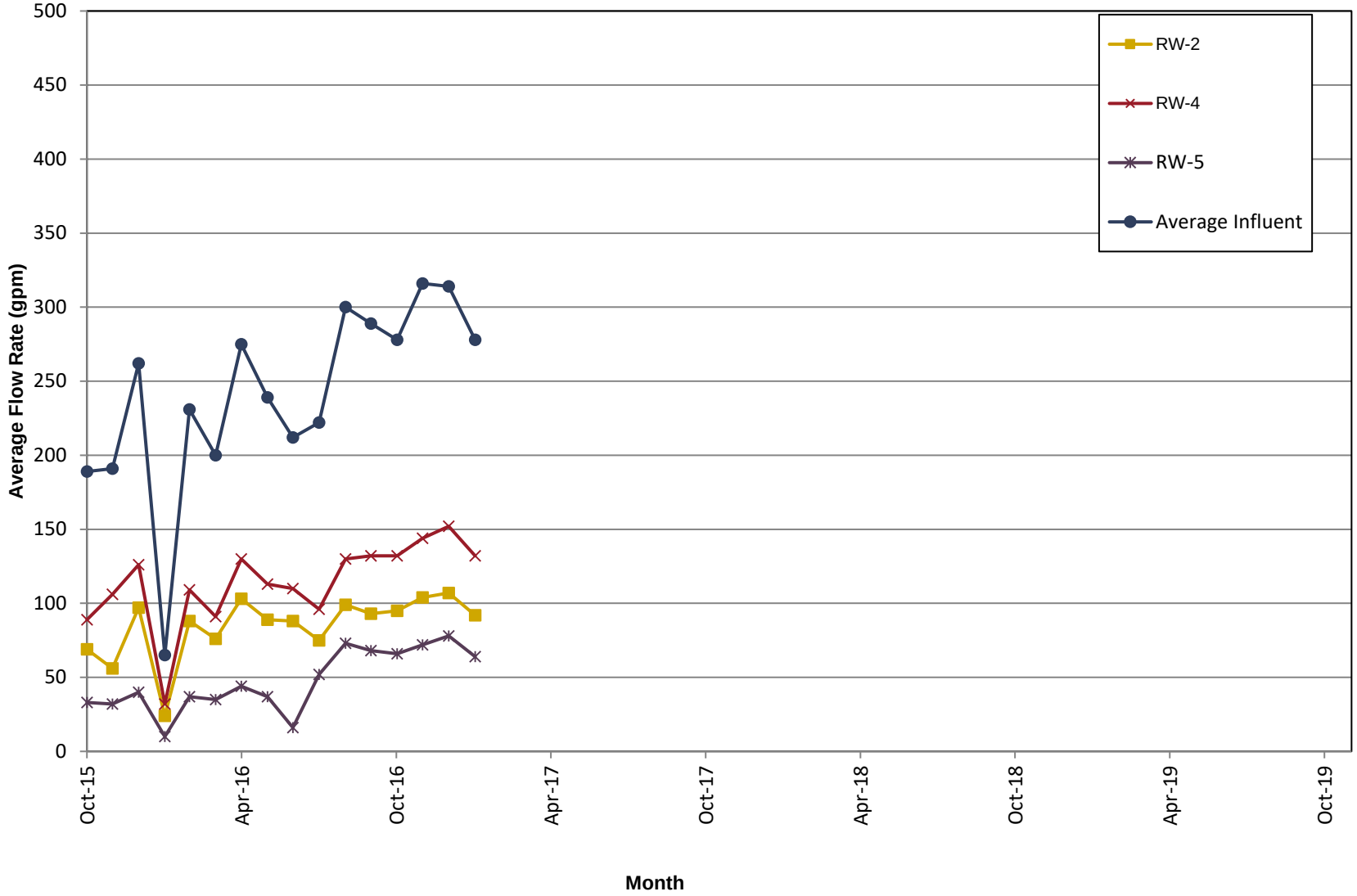


Figure 2
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Tetrachloroethene (PCE) Concentrations

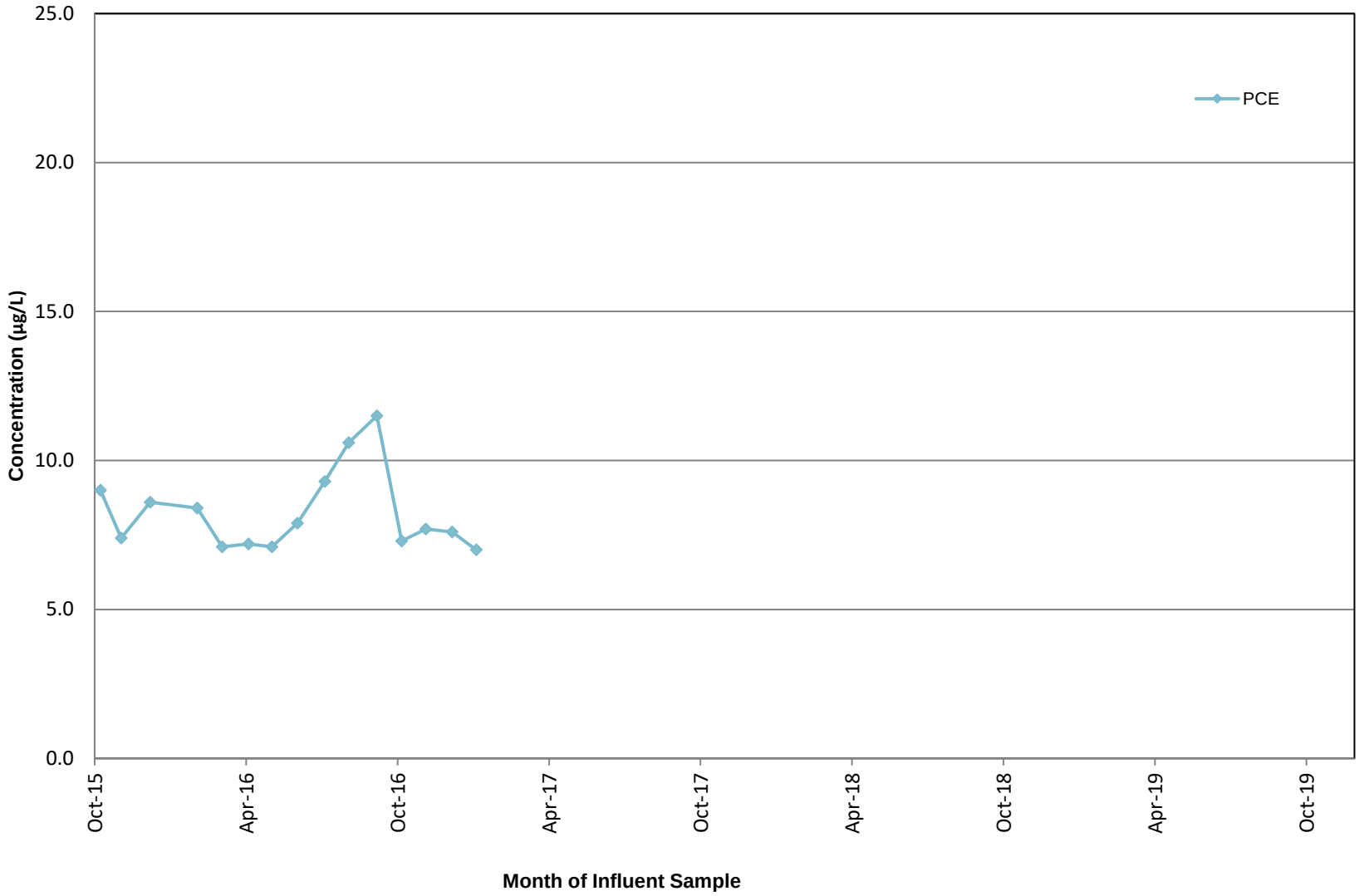
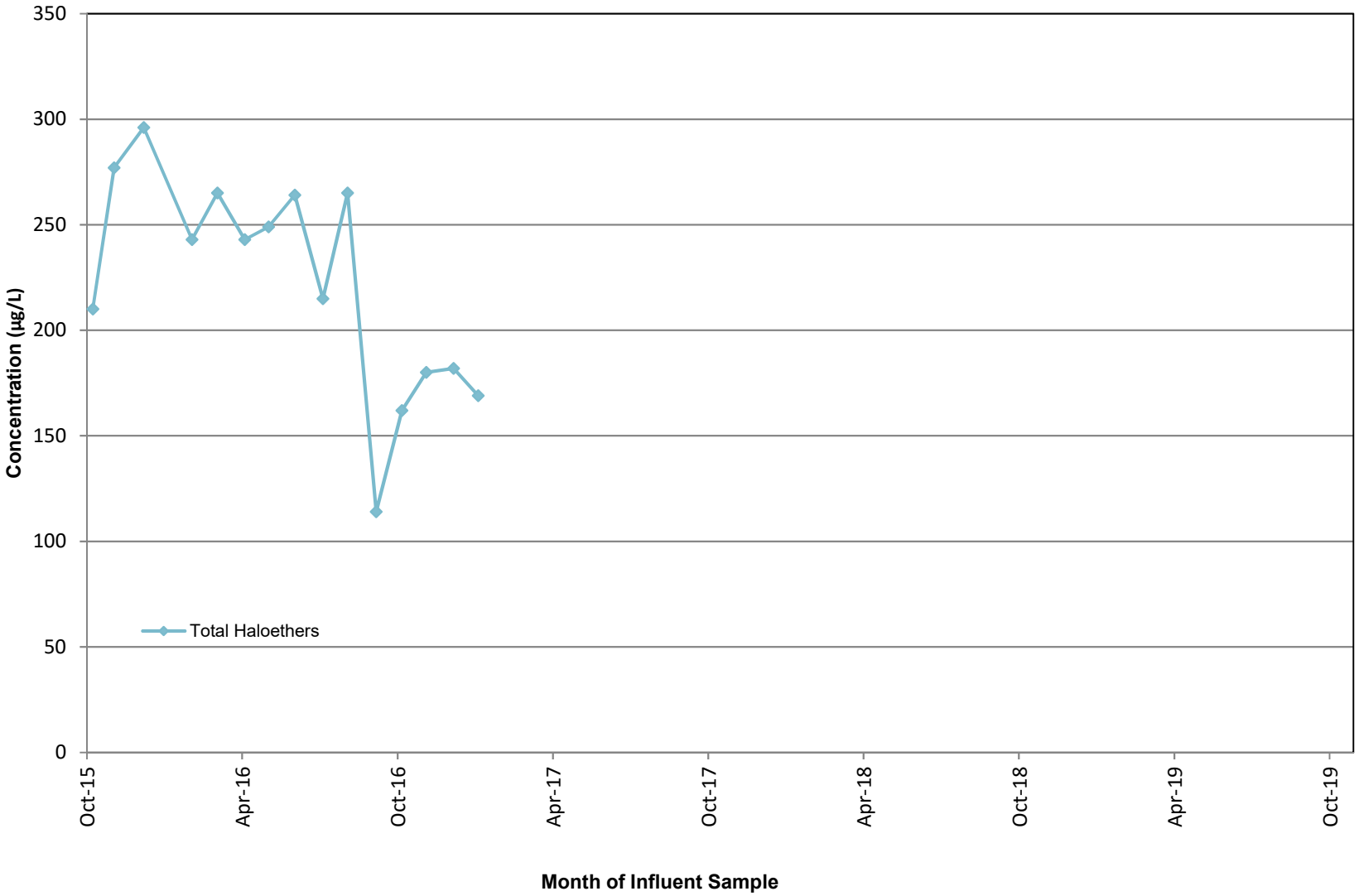


Figure 3
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Total Haloethers Concentrations



Attachment 1
Data Review Report #27135R

Fibers Group

Data Review

GUAYAMA, PUERTO RICO

Volatiles Analyses

SDG #2048236
Analyses Performed By:
Pace Analytical Services, Inc.
New Orleans, Louisiana

Report: #27135R
Review Level: Tier II
Project: CO001911.0003.1605A

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #2048236 for samples collected in association with the Fibers Group Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	TPH	MET	MISC
TB-20170104	2048236001	Water	01/04/2017		X				
INF-20170104	2048236002	Water	01/04/2017		X				
EFF-20170104	2048236003	Water	01/04/2017		X				
EFFDUP-20170104	2048236004	Water	01/04/2017	EFF-20170104	X				

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location EFF-20170104.

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within acceptable holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the RL, with the exception of the compound Acetone. The associated trip blank (TB) was stored on-site prior to the sampling of site locations. Therefore, only the associated method blank was used to evaluate process blank contamination. Due to the storage of the TB, the associated result of this sample has been qualified as biased high (J+).

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
EFF-20170104	1,1,2-Trichlorotrifluoroethane	>UL	>UL
	Carbon disulfide		
	Haloether 421	>UL	AC
	Halomar		
	Methoxyflurane		
	m&p-Xylene	< LL but > 10%	< LL but > 10%
	Styrene	<10%	<10%
	Acrolein		

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	LCS Recovery
All sample locations within this SDG	Carbon disulfide	>UL

The criteria used to evaluate the LCS/LCSD recoveries are presented in the following table. In the case of an LCS/LCSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
EFF-20170104/ EFFDUP-20170104	Acetone	22.6	31.0	31.3%

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Note: The laboratory qualified all Acetone results with a C9 qualifier to indicate that this compound is a “Common Laboratory Contaminant”. This qualifier was removed for reporting purposes.

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks		X	X		
Laboratory Control Sample (LCS) Accuracy (%R)		X	X		
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision RPD		X		X	
Field/Laboratory Duplicate Sample RPD		X		X	
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference
%RSD Relative standard deviation
%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: January 31, 2017

PEER REVIEW: Dennis Capria

DATE: February 1, 2017

CHAIN OF CUSTODY/
ANNOTATED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: TB-20170104 **Lab ID: 2048236001** Collected: 01/04/17 00:00 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**12.8**	ug/L	4.0	1		01/16/17 19:20	67-64-1	~~C9~~ J+
Acrolein	ND	ug/L	8.0	1		01/16/17 19:20	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 19:20	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 19:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 19:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 19:20	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 19:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 19:20	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 19:20	75-15-0	~~L3~~
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 19:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 19:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 19:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 19:20	67-66-3	
Chloromethane	ND	ug/L	1.0	1		01/16/17 19:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 19:20	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 19:20	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 19:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:20	10061-02-6	
Enflurane	ND	ug/L	1.0	1		01/16/17 19:20	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 19:20	100-41-4	
Haloether 229	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 406	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 421	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 427	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 428	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 508	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 528	ND	ug/L	1.0	1		01/16/17 19:20		
Halomar	ND	ug/L	1.0	1		01/16/17 19:20		
2-Hexanone	ND	ug/L	2.0	1		01/16/17 19:20	591-78-6	
Isoflurane	ND	ug/L	1.0	1		01/16/17 19:20		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 19:20	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 19:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 19:20	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 19:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 19:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		01/16/17 19:20	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 19:20	108-88-3	
Total Haloether	ND	ug/L	1.0	1		01/16/17 19:20		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: TB-20170104 **Lab ID: 2048236001** Collected: 01/04/17 00:00 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 19:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 19:20	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 19:20	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 19:20	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 19:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		01/16/17 19:20	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%.	79-119	1		01/16/17 19:20	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		01/16/17 19:20	460-00-4	
Dibromofluoromethane (S)	105	%.	72-126	1		01/16/17 19:20	1868-53-7	

Sample: INF-20170104 **Lab ID: 2048236002** Collected: 01/04/17 11:10 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**10.1**	ug/L	4.0	1		01/16/17 20:13	67-64-1	~~C9~~
Acrolein	ND	ug/L	8.0	1		01/16/17 20:13	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 20:13	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 20:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 20:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 20:13	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 20:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 20:13	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 20:13	75-15-0	~~L3~~
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 20:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 20:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 20:13	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 20:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		01/16/17 20:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 20:13	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 20:13	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 20:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 20:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 20:13	10061-02-6	
Enflurane	**2.2**	ug/L	1.0	1		01/16/17 20:13	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 20:13	100-41-4	
Haloether 229	**26.0**	ug/L	1.0	1		01/16/17 20:13		
Haloether 406	ND	ug/L	1.0	1		01/16/17 20:13		
Haloether 421	ND	ug/L	1.0	1		01/16/17 20:13		
Haloether 427	ND	ug/L	1.0	1		01/16/17 20:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: INF-20170104 **Lab ID: 2048236002** Collected: 01/04/17 11:10 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		01/16/17 20:13		
Haloether 508	**53.6**	ug/L	1.0	1		01/16/17 20:13		
Haloether 528	ND	ug/L	1.0	1		01/16/17 20:13		
Halomar	**1.2**	ug/L	1.0	1		01/16/17 20:13		
2-Hexanone	ND	ug/L	2.0	1		01/16/17 20:13	591-78-6	
Isoflurane	**86.4**	ug/L	1.0	1		01/16/17 20:13		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 20:13	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 20:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 20:13	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 20:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 20:13	79-34-5	
Tetrachloroethene	**7.0**	ug/L	1.0	1		01/16/17 20:13	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 20:13	108-88-3	
Total Haloether	**169**	ug/L	1.0	1		01/16/17 20:13		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 20:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 20:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 20:13	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 20:13	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 20:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		01/16/17 20:13	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		01/16/17 20:13	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	68-124	1		01/16/17 20:13	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		01/16/17 20:13	1868-53-7	

Sample: EFF-20170104 **Lab ID: 2048236003** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**22.6**	ug/L	4.0	1		01/16/17 19:02	67-64-1	~~C9~~
Acrolein	~~ND~~	~~ug/L~~	~~8.0~~	~~1~~		~~01/16/17 19:02~~	~~107-02-8~~	~~M1~~ R
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 19:02	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 19:02	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 19:02	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 19:02	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 19:02	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 19:02	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 19:02	75-15-0	~~L3,M0~~
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 19:02	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 19:02	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 19:02	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 19:02	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: EFF-20170104 **Lab ID: 2048236003** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		01/16/17 19:02	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 19:02	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 19:02	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 19:02	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:02	10061-02-6	
Enflurane	ND	ug/L	1.0	1		01/16/17 19:02	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 19:02	100-41-4	
Haloether 229	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 406	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 421	ND	ug/L	1.0	1		01/16/17 19:02		~~M1~~
Haloether 427	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 428	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 508	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 528	ND	ug/L	1.0	1		01/16/17 19:02		
Halomar	ND	ug/L	1.0	1		01/16/17 19:02		~~M1~~
2-Hexanone	ND	ug/L	2.0	1		01/16/17 19:02	591-78-6	
Isoflurane	ND	ug/L	1.0	1		01/16/17 19:02		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 19:02	76-38-0	~~M1~~
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 19:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 19:02	108-10-1	
Styrene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		01/16/17 19:02	100-42-5	~~M1,R1~~ R
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 19:02	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		01/16/17 19:02	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 19:02	108-88-3	
Total Haloether	ND	ug/L	1.0	1		01/16/17 19:02		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 19:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 19:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 19:02	76-13-1	~~M1~~
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 19:02	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 19:02	179601-23-1	~~M1~~ J
o-Xylene	ND	ug/L	1.0	1		01/16/17 19:02	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%.	79-119	1		01/16/17 19:02	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	68-124	1		01/16/17 19:02	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		01/16/17 19:02	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: EFFDUP-20170104 **Lab ID: 2048236004** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**31.0**	ug/L	4.0	1		01/16/17 19:37	67-64-1	~~C9~~
Acrolein	ND	ug/L	8.0	1		01/16/17 19:37	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 19:37	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 19:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 19:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 19:37	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 19:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 19:37	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 19:37	75-15-0	~~L3~~
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 19:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 19:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 19:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 19:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		01/16/17 19:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 19:37	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 19:37	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 19:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:37	10061-02-6	
Enflurane	ND	ug/L	1.0	1		01/16/17 19:37	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 19:37	100-41-4	
Haloether 229	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 406	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 421	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 427	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 428	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 508	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 528	ND	ug/L	1.0	1		01/16/17 19:37		
Halomar	ND	ug/L	1.0	1		01/16/17 19:37		
2-Hexanone	ND	ug/L	2.0	1		01/16/17 19:37	591-78-6	
Isoflurane	ND	ug/L	1.0	1		01/16/17 19:37		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 19:37	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 19:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 19:37	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 19:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 19:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		01/16/17 19:37	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 19:37	108-88-3	
Total Haloether	ND	ug/L	1.0	1		01/16/17 19:37		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: EFFDUP-20170104 **Lab ID: 2048236004** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 19:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 19:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 19:37	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 19:37	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 19:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		01/16/17 19:37	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%.	79-119	1		01/16/17 19:37	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		01/16/17 19:37	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		01/16/17 19:37	1868-53-7	

REPORT OF LABORATORY ANALYSIS

WO# : 2048236

2048236

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1947859

Section A Required Client

Company: Arcadis US. Inc.
Address: 410 North 44th St. 1000
Phoenix, AZ 85008
Email To: david.howard@arcadis-us.com
Phone: 602-797-4519 Fax:
Requested Due Date/TAT:

David Howard
Copy To: Cassandra McCloud
Purchase Order No.: CO001911.0003
Project Name: Fibers Public Supply Wells
Project Number: CO001911.0003

Section C Invoice Information:

Attention: Accounts Payable
Company Name: Arcadis
Address:
Pace Quote Reference:
Pace Project Manager: Justin.Stork@pacelabs.com
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: PR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 8260 Vol + Halomethyls	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TB-20170104	LAB			LAB				2									X		
2	INF-20170104	WT	G			1-04-17	1110		3				X					X		
3	EFF-20170104	WT	G			1-04-17	1145		3				X					X		
4	EFFDUP-20170104	WT	G			1-04-17	1145		3				X					X		
5	MS-20170104	WT	G			1-04-17	1145		3				X					X		
6	MSD-20170104	WT	G			1-04-17	1145		3				X					X		
7																				
8																				
9																				
10																				
11																				
12																				

Abers-

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Arcadis	1.04.17	1405	Pace	1-4-17	14:05	
	Pace	1-4-17	17:50	Fed Ex			
	Fed Ex	1-5-17	0910	Pace	1-5-17	0910	1.1 Y Y Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: E. Dalgado
SIGNATURE of SAMPLER: E Dalgado
DATE Signed (MM/DD/YY): JAN 04, 2017

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Attachment 2
Laboratory Analytical Report #2048236

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

January 17, 2017

David Howard
ARCADIS
410 North 44th St.
Suite 1000
Phoenix, AZ 85008

RE: Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Dear David Howard:
Enclosed are the analytical results for sample(s) received by the laboratory on January 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Justin L. Stock
justin.stock@pacelabs.com
Project Manager

Enclosures

cc: Janisse Diaz, Arcadis
Cassandra McCloud
Elvin Varela, ARCADIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

CERTIFICATIONS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Commonwealth of Virginia (TNI): 480246

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(504)469-0333

SAMPLE SUMMARY

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2048236001	**TB-20170104**	Water	01/04/17 00:00	01/05/17 09:10
2048236002	**INF-20170104**	Water	01/04/17 11:10	01/05/17 09:10
2048236003	**EFF-20170104**	Water	01/04/17 11:45	01/05/17 09:10
2048236004	**EFFDUP-20170104**	Water	01/04/17 11:45	01/05/17 09:10

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SAMPLE ANALYTE COUNT

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2048236001	**TB-20170104**	EPA 5030B/8260	RMP	56	PASI-N
2048236002	**INF-20170104**	EPA 5030B/8260	RMP	56	PASI-N
2048236003	**EFF-20170104**	EPA 5030B/8260	RMP	56	PASI-N
2048236004	**EFFDUP-20170104**	EPA 5030B/8260	RMP	56	PASI-N

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: January 17, 2017

General Information:
4 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 72124

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 302228)
  - Carbon disulfide

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 72124

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2048236003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 302229)
  - Carbon disulfide
- MSD (Lab ID: 302230)
  - Carbon disulfide

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 302229)
  - 1,1,2-Trichlorotrifluoroethane
  - Acrolein

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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: January 17, 2017

QC Batch: 72124

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2048236003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Haloether 421
- Halomar
- Methoxyflurane
- Styrene
- m&p-Xylene

- MSD (Lab ID: 302230)
  - 1,1,2-Trichlorotrifluoroethane
  - Acrolein
  - Styrene
  - m&p-Xylene

R1: RPD value was outside control limits.

- MSD (Lab ID: 302230)
  - Styrene

Additional Comments:

Analyte Comments:

QC Batch: 72124

C9: Common Laboratory Contaminant.

- EFF-20170104 (Lab ID: 2048236003)
  - Acetone
- EFFDUP-20170104 (Lab ID: 2048236004)
  - Acetone
- INF-20170104 (Lab ID: 2048236002)
  - Acetone
- TB-20170104 (Lab ID: 2048236001)
  - Acetone

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: TB-20170104 **Lab ID: 2048236001** Collected: 01/04/17 00:00 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**12.8**	ug/L	4.0	1		01/16/17 19:20	67-64-1	C9
Acrolein	ND	ug/L	8.0	1		01/16/17 19:20	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 19:20	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 19:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 19:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 19:20	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 19:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 19:20	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 19:20	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 19:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 19:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 19:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 19:20	67-66-3	
Chloromethane	ND	ug/L	1.0	1		01/16/17 19:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 19:20	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 19:20	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 19:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:20	10061-02-6	
Enflurane	ND	ug/L	1.0	1		01/16/17 19:20	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 19:20	100-41-4	
Haloether 229	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 406	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 421	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 427	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 428	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 508	ND	ug/L	1.0	1		01/16/17 19:20		
Haloether 528	ND	ug/L	1.0	1		01/16/17 19:20		
Halomar	ND	ug/L	1.0	1		01/16/17 19:20		
2-Hexanone	ND	ug/L	2.0	1		01/16/17 19:20	591-78-6	
Isoflurane	ND	ug/L	1.0	1		01/16/17 19:20		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 19:20	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 19:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 19:20	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 19:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 19:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		01/16/17 19:20	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 19:20	108-88-3	
Total Haloether	ND	ug/L	1.0	1		01/16/17 19:20		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 19:20	79-01-6	

Pace Analytical Services, LLC
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(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: TB-20170104 **Lab ID: 2048236001** Collected: 01/04/17 00:00 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 19:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 19:20	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 19:20	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 19:20	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 19:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		01/16/17 19:20	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%.	79-119	1		01/16/17 19:20	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		01/16/17 19:20	460-00-4	
Dibromofluoromethane (S)	105	%.	72-126	1		01/16/17 19:20	1868-53-7	

Sample: INF-20170104 **Lab ID: 2048236002** Collected: 01/04/17 11:10 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**10.1**	ug/L	4.0	1		01/16/17 20:13	67-64-1	C9
Acrolein	ND	ug/L	8.0	1		01/16/17 20:13	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 20:13	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 20:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 20:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 20:13	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 20:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 20:13	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 20:13	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 20:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 20:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 20:13	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 20:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		01/16/17 20:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 20:13	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 20:13	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 20:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 20:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 20:13	10061-02-6	
Enflurane	**2.2**	ug/L	1.0	1		01/16/17 20:13	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 20:13	100-41-4	
Haloether 229	**26.0**	ug/L	1.0	1		01/16/17 20:13		
Haloether 406	ND	ug/L	1.0	1		01/16/17 20:13		
Haloether 421	ND	ug/L	1.0	1		01/16/17 20:13		
Haloether 427	ND	ug/L	1.0	1		01/16/17 20:13		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: INF-20170104 **Lab ID: 2048236002** Collected: 01/04/17 11:10 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		01/16/17 20:13		
Haloether 508	**53.6**	ug/L	1.0	1		01/16/17 20:13		
Haloether 528	ND	ug/L	1.0	1		01/16/17 20:13		
Halomar	**1.2**	ug/L	1.0	1		01/16/17 20:13		
2-Hexanone	ND	ug/L	2.0	1		01/16/17 20:13	591-78-6	
Isoflurane	**86.4**	ug/L	1.0	1		01/16/17 20:13		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 20:13	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 20:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 20:13	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 20:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 20:13	79-34-5	
Tetrachloroethene	**7.0**	ug/L	1.0	1		01/16/17 20:13	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 20:13	108-88-3	
Total Haloether	**169**	ug/L	1.0	1		01/16/17 20:13		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 20:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 20:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 20:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 20:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 20:13	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 20:13	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 20:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		01/16/17 20:13	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		01/16/17 20:13	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	68-124	1		01/16/17 20:13	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		01/16/17 20:13	1868-53-7	

Sample: EFF-20170104 **Lab ID: 2048236003** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**22.6**	ug/L	4.0	1		01/16/17 19:02	67-64-1	C9
Acrolein	ND	ug/L	8.0	1		01/16/17 19:02	107-02-8	M1
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 19:02	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 19:02	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 19:02	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 19:02	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 19:02	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 19:02	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 19:02	75-15-0	L3,M0
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 19:02	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 19:02	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 19:02	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 19:02	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: EFF-20170104 **Lab ID: 2048236003** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		01/16/17 19:02	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 19:02	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 19:02	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 19:02	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:02	10061-02-6	
Enflurane	ND	ug/L	1.0	1		01/16/17 19:02	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 19:02	100-41-4	
Haloether 229	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 406	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 421	ND	ug/L	1.0	1		01/16/17 19:02		M1
Haloether 427	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 428	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 508	ND	ug/L	1.0	1		01/16/17 19:02		
Haloether 528	ND	ug/L	1.0	1		01/16/17 19:02		
Halomar	ND	ug/L	1.0	1		01/16/17 19:02		M1
2-Hexanone	ND	ug/L	2.0	1		01/16/17 19:02	591-78-6	
Isoflurane	ND	ug/L	1.0	1		01/16/17 19:02		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 19:02	76-38-0	M1
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 19:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 19:02	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 19:02	100-42-5	M1,R1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 19:02	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		01/16/17 19:02	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 19:02	108-88-3	
Total Haloether	ND	ug/L	1.0	1		01/16/17 19:02		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 19:02	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 19:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 19:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 19:02	76-13-1	M1
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 19:02	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 19:02	179601-23-1	M1
o-Xylene	ND	ug/L	1.0	1		01/16/17 19:02	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%.	79-119	1		01/16/17 19:02	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	68-124	1		01/16/17 19:02	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		01/16/17 19:02	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: EFFDUP-20170104 **Lab ID: 2048236004** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**31.0**	ug/L	4.0	1		01/16/17 19:37	67-64-1	C9
Acrolein	ND	ug/L	8.0	1		01/16/17 19:37	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		01/16/17 19:37	107-13-1	
Benzene	ND	ug/L	1.0	1		01/16/17 19:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		01/16/17 19:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		01/16/17 19:37	75-25-2	
Bromomethane	ND	ug/L	1.0	1		01/16/17 19:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		01/16/17 19:37	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		01/16/17 19:37	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	1		01/16/17 19:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		01/16/17 19:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		01/16/17 19:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		01/16/17 19:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		01/16/17 19:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		01/16/17 19:37	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		01/16/17 19:37	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		01/16/17 19:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		01/16/17 19:37	10061-02-6	
Enflurane	ND	ug/L	1.0	1		01/16/17 19:37	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		01/16/17 19:37	100-41-4	
Haloether 229	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 406	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 421	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 427	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 428	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 508	ND	ug/L	1.0	1		01/16/17 19:37		
Haloether 528	ND	ug/L	1.0	1		01/16/17 19:37		
Halomar	ND	ug/L	1.0	1		01/16/17 19:37		
2-Hexanone	ND	ug/L	2.0	1		01/16/17 19:37	591-78-6	
Isoflurane	ND	ug/L	1.0	1		01/16/17 19:37		
Methoxyflurane	ND	ug/L	1.0	1		01/16/17 19:37	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		01/16/17 19:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		01/16/17 19:37	108-10-1	
Styrene	ND	ug/L	1.0	1		01/16/17 19:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		01/16/17 19:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		01/16/17 19:37	127-18-4	
Toluene	ND	ug/L	1.0	1		01/16/17 19:37	108-88-3	
Total Haloether	ND	ug/L	1.0	1		01/16/17 19:37		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		01/16/17 19:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		01/16/17 19:37	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Sample: EFFDUP-20170104 **Lab ID: 2048236004** Collected: 01/04/17 11:45 Received: 01/05/17 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		01/16/17 19:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		01/16/17 19:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		01/16/17 19:37	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		01/16/17 19:37	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		01/16/17 19:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		01/16/17 19:37	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%.	79-119	1		01/16/17 19:37	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		01/16/17 19:37	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		01/16/17 19:37	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

QC Batch: 72124 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV
Associated Lab Samples: 2048236001, 2048236002, 2048236003, 2048236004

METHOD BLANK: 302227 Matrix: Water
Associated Lab Samples: 2048236001, 2048236002, 2048236003, 2048236004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/16/17 17:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/16/17 17:34	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/16/17 17:34	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/16/17 17:34	
1,1-Dichloroethane	ug/L	ND	1.0	01/16/17 17:34	
1,1-Dichloroethene	ug/L	ND	1.0	01/16/17 17:34	
1,2,3-Trichloropropane	ug/L	ND	1.0	01/16/17 17:34	
1,2-Dichloroethane	ug/L	ND	1.0	01/16/17 17:34	
1,2-Dichloropropane	ug/L	ND	1.0	01/16/17 17:34	
2-Butanone (MEK)	ug/L	ND	2.0	01/16/17 17:34	
2-Hexanone	ug/L	ND	2.0	01/16/17 17:34	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	01/16/17 17:34	
Acetone	ug/L	ND	4.0	01/16/17 17:34	
Acrolein	ug/L	ND	8.0	01/16/17 17:34	
Acrylonitrile	ug/L	ND	4.0	01/16/17 17:34	
Benzene	ug/L	ND	1.0	01/16/17 17:34	
Bromodichloromethane	ug/L	ND	1.0	01/16/17 17:34	
Bromoform	ug/L	ND	1.0	01/16/17 17:34	
Bromomethane	ug/L	ND	1.0	01/16/17 17:34	
Carbon disulfide	ug/L	ND	1.0	01/16/17 17:34	
Carbon tetrachloride	ug/L	ND	1.0	01/16/17 17:34	
Chlorobenzene	ug/L	ND	1.0	01/16/17 17:34	
Chloroethane	ug/L	ND	1.0	01/16/17 17:34	
Chloroform	ug/L	ND	1.0	01/16/17 17:34	
Chloromethane	ug/L	ND	1.0	01/16/17 17:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/16/17 17:34	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/16/17 17:34	
Dibromochloromethane	ug/L	ND	1.0	01/16/17 17:34	
Dibromomethane	ug/L	ND	1.0	01/16/17 17:34	
Enflurane	ug/L	ND	1.0	01/16/17 17:34	
Ethylbenzene	ug/L	ND	1.0	01/16/17 17:34	
Haloether 229	ug/L	ND	1.0	01/16/17 17:34	
Haloether 406	ug/L	ND	1.0	01/16/17 17:34	
Haloether 421	ug/L	ND	1.0	01/16/17 17:34	
Haloether 427	ug/L	ND	1.0	01/16/17 17:34	
Haloether 428	ug/L	ND	1.0	01/16/17 17:34	
Haloether 508	ug/L	ND	1.0	01/16/17 17:34	
Haloether 528	ug/L	ND	1.0	01/16/17 17:34	
Halomar	ug/L	ND	1.0	01/16/17 17:34	
Isoflurane	ug/L	ND	1.0	01/16/17 17:34	
m&p-Xylene	ug/L	ND	2.0	01/16/17 17:34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

METHOD BLANK: 302227 Matrix: Water
Associated Lab Samples: 2048236001, 2048236002, 2048236003, 2048236004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methoxyflurane	ug/L	ND	1.0	01/16/17 17:34	
Methylene Chloride	ug/L	ND	5.0	01/16/17 17:34	
o-Xylene	ug/L	ND	1.0	01/16/17 17:34	
Styrene	ug/L	ND	1.0	01/16/17 17:34	
Tetrachloroethene	ug/L	ND	1.0	01/16/17 17:34	
Toluene	ug/L	ND	1.0	01/16/17 17:34	
Total Haloether	ug/L	ND	1.0	01/16/17 17:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/16/17 17:34	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/16/17 17:34	
Trichloroethene	ug/L	ND	1.0	01/16/17 17:34	
Trichlorofluoromethane	ug/L	ND	1.0	01/16/17 17:34	
Vinyl chloride	ug/L	ND	1.0	01/16/17 17:34	
4-Bromofluorobenzene (S)	%.	98	68-124	01/16/17 17:34	
Dibromofluoromethane (S)	%.	113	72-126	01/16/17 17:34	
Toluene-d8 (S)	%.	102	79-119	01/16/17 17:34	

LABORATORY CONTROL SAMPLE: 302228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	52.0	104	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	50.1	100	15-179	
1,1,2-Trichloroethane	ug/L	50	48.2	96	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	52.3	105	38-121	
1,1-Dichloroethane	ug/L	50	55.7	111	63-129	
1,1-Dichloroethene	ug/L	50	53.2	106	51-139	
1,2,3-Trichloropropane	ug/L	50	49.0	98	13-187	
1,2-Dichloroethane	ug/L	50	49.9	100	57-148	
1,2-Dichloropropane	ug/L	50	53.7	107	66-128	
2-Butanone (MEK)	ug/L	50	60.1	120	32-183	
2-Hexanone	ug/L	50	50.6	101	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	51.5	103	26-171	
Acetone	ug/L	50	60.3	121	22-165	
Acrolein	ug/L	100	99.1	99	10-131	
Acrylonitrile	ug/L	50	50.4	101	18-149	
Benzene	ug/L	50	54.6	109	62-131	
Bromodichloromethane	ug/L	50	47.7	95	69-132	
Bromoform	ug/L	50	42.4	85	35-166	
Bromomethane	ug/L	50	40.4	81	34-158	
Carbon disulfide	ug/L	50	65.5	131	31-128	L0
Carbon tetrachloride	ug/L	50	48.0	96	54-144	
Chlorobenzene	ug/L	50	48.4	97	70-127	
Chloroethane	ug/L	50	38.0	76	17-195	
Chloroform	ug/L	50	49.7	99	73-134	
Chloromethane	ug/L	50	60.5	121	17-153	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

LABORATORY CONTROL SAMPLE: 302228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	52.5	105	68-129	
cis-1,3-Dichloropropene	ug/L	50	49.9	100	72-138	
Dibromochloromethane	ug/L	50	44.1	88	49-146	
Dibromomethane	ug/L	50	49.0	98	56-145	
Enflurane	ug/L	50	48.9	98	56-135	
Ethylbenzene	ug/L	50	47.1	94	66-126	
Haloether 229	ug/L	50	43.5	87	62-123	
Haloether 406	ug/L	50	49.7	99	62-134	
Haloether 421	ug/L	50	51.8	104	70-128	
Haloether 427	ug/L	50	46.0	92	69-153	
Haloether 428	ug/L	50	47.7	95	70-134	
Haloether 508	ug/L	50	48.9	98	52-139	
Haloether 528	ug/L	50	41.3	83	48-157	
Halomar	ug/L	50	53.4	107	62-128	
Isoflurane	ug/L	50	48.8	98	61-132	
m&p-Xylene	ug/L	100	93.4	93	65-129	
Methoxyflurane	ug/L	50	51.6	103	72-124	
Methylene Chloride	ug/L	50	54.7	109	46-168	
o-Xylene	ug/L	50	46.3	93	65-124	
Styrene	ug/L	50	48.1	96	72-133	
Tetrachloroethene	ug/L	50	46.0	92	46-157	
Toluene	ug/L	50	50.6	101	69-126	
Total Haloether	ug/L		532			
trans-1,2-Dichloroethene	ug/L	50	52.0	104	60-129	
trans-1,3-Dichloropropene	ug/L	50	50.6	101	59-149	
Trichloroethene	ug/L	50	49.8	100	67-132	
Trichlorofluoromethane	ug/L	50	51.0	102	39-171	
Vinyl chloride	ug/L	50	43.5	87	27-149	
4-Bromofluorobenzene (S)	%.			96	68-124	
Dibromofluoromethane (S)	%.			109	72-126	
Toluene-d8 (S)	%.			102	79-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302229 302230

Parameter	Units	2048236003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	64.6	56.2	129	112	54-137	14	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	59.9	53.1	120	106	15-187	12	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	56.2	50.1	112	100	59-148	12	20	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	65.9	59.0	132	118	40-117	11	20	M1
1,1-Dichloroethane	ug/L	ND	50	50	66.6	56.6	133	113	59-133	16	20	
1,1-Dichloroethene	ug/L	ND	50	50	66.0	57.5	132	115	44-146	14	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	57.0	51.0	114	102	14-199	11	20	
1,2-Dichloroethane	ug/L	ND	50	50	60.6	52.0	121	104	56-154	15	20	
1,2-Dichloropropane	ug/L	ND	50	50	62.8	54.6	126	109	62-135	14	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302229 302230

Parameter	Units	2048236003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Butanone (MEK)	ug/L	ND	50	50	67.7	56.8	135	114	20-205	18	20	
2-Hexanone	ug/L	ND	50	50	55.9	49.3	112	99	25-189	13	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	59.0	50.6	118	101	23-184	15	20	
Acetone	ug/L	22.6	50	50	85.7	74.1	126	103	11-217	14	20	
Acrolein	ug/L	ND	100	100	7.8J	7J	8	7	10-142		20	M1
Acrylonitrile	ug/L	ND	50	50	57.2	50.3	114	101	20-164	13	20	
Benzene	ug/L	ND	50	50	65.7	56.2	131	112	52-141	16	20	
Bromodichloromethane	ug/L	ND	50	50	57.3	49.6	115	99	70-134	14	20	
Bromoform	ug/L	ND	50	50	49.9	44.8	99	89	37-171	11	20	
Bromomethane	ug/L	ND	50	50	48.3	48.1	97	96	34-155	0	20	
Carbon disulfide	ug/L	ND	50	50	88.5	76.6	177	153	28-130	14	20	M0
Carbon tetrachloride	ug/L	ND	50	50	61.2	52.3	122	105	48-146	16	20	
Chlorobenzene	ug/L	ND	50	50	59.1	50.1	118	100	67-129	16	20	
Chloroethane	ug/L	ND	50	50	49.7	44.1	99	88	12-192	12	20	
Chloroform	ug/L	ND	50	50	60.7	52.4	121	105	66-143	15	20	
Chloromethane	ug/L	ND	50	50	76.6	67.6	153	135	14-155	12	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	62.8	54.4	126	109	56-141	14	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	57.0	50.8	114	102	70-139	11	20	
Dibromochloromethane	ug/L	ND	50	50	52.9	45.0	106	90	50-150	16	20	
Dibromomethane	ug/L	ND	50	50	57.8	50.3	116	101	58-153	14	20	
Enflurane	ug/L	ND	50	50	61.2	52.5	122	105	63-126	15	20	
Ethylbenzene	ug/L	ND	50	50	56.3	47.8	113	96	57-135	16	20	
Haloether 229	ug/L	ND	50	50	61.2	61.0	122	122	56-127	0	20	
Haloether 406	ug/L	ND	50	50	62.3	55.0	125	110	68-128	13	20	
Haloether 421	ug/L	ND	50	50	63.6	53.9	127	108	74-120	16	20	M1
Haloether 427	ug/L	ND	50	50	57.9	50.6	116	101	78-120	13	20	
Haloether 428	ug/L	ND	50	50	59.7	52.6	119	105	74-125	13	20	
Haloether 508	ug/L	ND	50	50	60.3	52.8	121	106	28-156	13	20	
Haloether 528	ug/L	ND	50	50	38.8	33.3	78	67	45-142	15	20	
Halomar	ug/L	ND	50	50	65.2	55.7	130	111	67-123	16	20	M1
Isoflurane	ug/L	ND	50	50	61.1	54.0	122	108	45-140	12	20	
m&p-Xylene	ug/L	ND	100	100	45.3	38.4	45	38	56-136	17	20	M1
Methoxyflurane	ug/L	ND	50	50	62.2	53.0	124	106	75-119	16	20	M1
Methylene Chloride	ug/L	ND	50	50	65.1	56.1	130	112	45-166	15	20	
o-Xylene	ug/L	ND	50	50	45.8	39.4	92	79	57-133	15	20	
Styrene	ug/L	ND	50	50	1.4	1.1	3	2	58-144	25	20	M1,R1
Tetrachloroethene	ug/L	ND	50	50	58.1	49.5	116	99	48-143	16	20	
Toluene	ug/L	ND	50	50	57.8	50.7	116	101	59-136	13	20	
Total Haloether	ug/L	ND			653	574				13		
trans-1,2-Dichloroethene	ug/L	ND	50	50	64.4	55.7	129	111	57-132	14	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	57.2	50.8	114	102	59-154	12	20	
Trichloroethene	ug/L	ND	50	50	61.9	53.2	124	106	58-140	15	20	
Trichlorofluoromethane	ug/L	ND	50	50	66.4	58.8	133	118	24-175	12	20	
Vinyl chloride	ug/L	ND	50	50	48.5	40.4	97	81	21-150	18	20	
4-Bromofluorobenzene (S)	%.						96	99	68-124			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302229 302230

Parameter	Units	2048236003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%.						110	108	72-126			
Toluene-d8 (S)	%.						99	100	79-119			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALIFIERS

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Fibers Public Supply Wells
Pace Project No.: 2048236

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2048236001	**TB-20170104**	EPA 5030B/8260	72124		
2048236002	**INF-20170104**	EPA 5030B/8260	72124		
2048236003	**EFF-20170104**	EPA 5030B/8260	72124		
2048236004	**EFFDUP-20170104**	EPA 5030B/8260	72124		

WO# : 2048236

2048236

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1947859

Section A Required Client

Company: Arcadis US. Inc.
Address: 410 North 44th St. 1000
Phoenix, AZ 85008
Email To: david.howard@arcadis-us.com
Phone: 602-797-4519 Fax:
Requested Due Date/TAT:

David Howard
Copy To: Cassandra McCloud
Purchase Order No.: CO001911.0003
Project Name: Fibers Public Supply Wells
Project Number: CO001911.0003

Section C Invoice Information:

Attention: Accounts Payable
Company Name: Arcadis
Address:
Pace Quote Reference:
Pace Project Manager: Justin.Stork@pacelabs.com
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CERCLA

Site Location STATE: PR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 8260 Vol + Halomethyls	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TB-20170104	LAB			LAB				2									X		
2	INF-20170104	WT	G			1-04-17	1110		3				X					X		
3	EFF-20170104	WT	G			1-04-17	1145		3				X					X		
4	EFFDUP-20170104	WT	G			1-04-17	1145		3				X					X		
5	MS-20170104	WT	G			1-04-17	1145		3				X					X		
6	MSD-20170104	WT	G			1-04-17	1145		3				X					X		
7																				
8																				
9																				
10																				
11																				
12																				

Abers-

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Arcadis	1.04.17	1405	Pace	1-4-17	14:05	
	Pace	1-4-17	17:50	Fed Ex			
	Fed Ex	1-5-17	0910	Pace	1-5-17	0910	1.1 Y Y Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: E. Dalgado
SIGNATURE of SAMPLER: E Dalgado
DATE Signed (MM/DD/YY): JAN 04, 2017

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rece

Project

WO#: 2048236

PM: JLS Due Date: 01/19/17

CLIENT: 20-CHEV-ARC

Courier: ☐ Pace Courier ☐ Hired Courier ☒ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☒Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☒ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1/5/17 JS

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☒Yes	☐No	☐N/A	1
Chain of Custody Present:	☒Yes	☐No	☐N/A	2
Chain of Custody Complete:	☒Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A	6
Sufficient Volume:	☒Yes	☐No	☐N/A	7
Correct Containers Used:	☒Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☐N/A	9
Sample Labels match COC:	☒Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☒Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☒Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☒Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO_3 _____ H_2SO_4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☒No	☐N/A	14
Trip Blank Present:	☒Yes	☐No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Attachment 3
Sampling and Monitoring Field Form

ARCADIS Design & Consultancy for natural and built assets

Groundwater Extraction and Treatment System (GWETS) Sampling and Monitoring Field Form
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Collection Date	Sample ID	Collection Time	Sampler's Initials
1-04-2017	INF-20170104	1110	EDR
1-04-2017	EFF-20170104	1145	EDR
1-04-2017	EFFDUP-20170104	1145	EDR
1-04-2017	MS-20170104	1145	EDR
1-04-2017	MSD-20170104	1145	EDR
	TB-20170104	Lab	EDR

GWETS Operational Data at Sample Collection

Extraction Wells

RW-2	114.8	gpm
RW-4	164.7	gpm
RW-5	79.9	gpm

Compound Treatment System

Influent Flow Rate (FIT-101)	355.7	gpm
Effluent Flow Rate (FIT-301)	402.1	gpm
Blower (FIT-201A)	1882	cfm
Influent Flow Pressure (PIT-101)	2.5	psi
Effluent Flow Pressure (PIT-301)	20.5	psi
pH (pHIT-201A)	8.2	

Notes:
gpm = gallons per minute
cfm = cubic feet per minute
psi = pounds per square inch